

BEFORE THE PUBLIC SERVICE COMMISSION
OF SOUTH CAROLINA

Application of Dominion Energy South Carolina, Incorporated
for Adjustment of Rates and Charges

Docket No. 2020-125-E

Direct Testimony of
Scott J. Rubin

on Behalf of
AARP

November 10, 2020

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Introduction

Q. Please state your name and business address.

A. My name is Scott J. Rubin. My business address is 333 Oak Lane, Bloomsburg, PA.

Q. By whom are you employed and in what capacity?

A. I am an independent consultant and an attorney. My practice is limited to matters affecting the public utility industry.

Q. What is the purpose of your testimony in this case?

A. I have been asked by AARP to review the Application (including supporting testimony and exhibits) of Dominion Energy South Carolina (“DESC” or “Company”) with a particular focus on the design of rates for residential customers.

Q. Why is AARP interested in this case?

A. I am advised that AARP has more than 625,000 members in South Carolina many of whom are electricity customers of DESC.

Q. What are your qualifications to provide this testimony in this case?

A. For the past 37 years, I have devoted my professional life to work involving the public utility industry. This is true for my work as an attorney, as well as my work as a consultant, expert witness, and author.

I have testified as an expert witness before utility commissions or courts in the District of Columbia; the province of Nova Scotia; and the states of Alaska, Arizona, California, Connecticut, Delaware, Illinois, Kentucky, Maine, Maryland, Massachusetts, Minnesota, Mississippi, New Hampshire, New Jersey, New York, North Dakota, Ohio,

1 Pennsylvania, South Carolina, and West Virginia. I also have testified as an expert
2 witness before various federal, state, and local legislative committees. I have served as a
3 consultant to the staffs of four state utility commissions, as well as to several national
4 utility trade associations, and state and local governments throughout the country.

5 Prior to establishing my own consulting and law practice, I was employed by the
6 Pennsylvania Office of Consumer Advocate from 1983 through January 1994 in
7 increasingly responsible positions. From 1990 until I left state government, I was one of
8 two senior attorneys in that office. Among my other responsibilities in that position, I
9 had a major role in setting its policy positions on water and electric matters. In addition,
10 I was responsible for supervising the technical staff of the office. I also testified as an
11 expert witness for that office on rate design and cost of service issues.

12 Throughout my career, I developed substantial expertise in matters relating to the
13 economic regulation of public utilities. I have published articles, contributed to books,
14 written speeches, and delivered numerous presentations, on both the national and state
15 level, relating to regulatory issues. I have attended numerous continuing education
16 courses involving the utility industry. I also have participated as a faculty member in
17 utility-related educational programs for the Institute for Public Utilities at Michigan State
18 University, the American Water Works Association, and the Pennsylvania Bar Institute.

19 **Q. Have you appeared previously before this Commission?**

20 A. Yes, I testified for AARP in Docket No. 2017-370-E concerning the prudence of South
21 Carolina Electric and Gas Company's actions regarding the construction of V.C. Summer
22 units 2 and 3.

1 **Q. Do you have any experience that is particularly relevant to the issues in this case?**

2 A. Yes, I do. I have testified as an expert on utility rate design in more than 100 cases
3 throughout the United States and Canada for utilities providing water, electricity, and
4 natural gas distribution service.

5 **Q. Do you have any experience specific to electric utility rate design?**

6 A. Yes. Over the years, I have testified concerning electric utility rate design in dozens of
7 electric utility rate cases. For example, since 2017, I have testified on behalf of
8 residential consumers in rate cases involving the following electric utilities: Alaska
9 Power Co., Arizona Public Service Co., Central Maine Power Co., Commonwealth
10 Edison Co. (Illinois), Connecticut Light & Power Co., Liberty Utility Co. (New
11 Hampshire), Massachusetts Electric Co., Minnesota Power Co., NSTAR Electric Co.
12 (Massachusetts), Public Service Co. of New Hampshire, Unitil Energy Systems (New
13 Hampshire), and Western Massachusetts Electric Co.

14 **Q. Have you published any academic papers on the subject on residential rate design**
15 **for electric utilities?**

16 A. Yes. In 2015, I published a paper on electric utility rate design in the *Electricity Journal*.¹

17 **Q. Can you provide a copy of your complete curriculum vitae?**

18 A. Yes. I am providing my complete curriculum vitae as Appendix A.

¹ Scott J. Rubin, Moving Toward Demand-Based Residential Rates, *Electricity Journal*, Vol. 28, No. 9 (Nov. 2015), pp. 63-71, <http://dx.doi.org/10.1016/j.tej.2015.09.021>.

Q. Do you have any other preliminary matters to discuss?

A. Yes. my testimony and analysis are based on DESC's proposed revenue requirement. This is standard practice for discussing rate design issues because it allows different parties' recommendations to be compared on an "apples-to-apples" basis. This should not be taken, however, as an endorsement by me or AARP of the Company's proposed revenue requirements.

Summary

Q. In general terms, what types of issues will you discuss in this testimony?

A. In this testimony, I will discuss the structure and design of the Company's residential rates. I will review the existing rate options and make recommendations for how to implement any rate increase the Commission may authorize.

Q. Please summarize your major findings, conclusions, and recommendations.

A. I summarize my major findings, conclusions, and recommendations as follows:

- The Company has not justified any increase in the residential base facilities charges ("BFC"), let alone the 27% increase it is proposing.
- The BFC for Rate 8 should remain at its current level of \$9.00 per month.
- The BFC for Rate 2 (low-use customers) should be reduced to \$6.50 per month.
- I am concerned that customers on the energy-efficiency rates (Rates 1 and 6) actually use more electricity than the average Rate 8 customer.
- The Commission, therefore, should investigate whether the discounted energy-efficiency rates (Rates 1 and 6) are reasonable and cost-based.
- Very few customers have enrolled in the optional time-of-use or demand-based rates for residential customers (Rates 5 and 7, respectively). At year-end 2019, only 69 customers were taking service on Rate 5 and only 12 customers were on Rate 7.
- When so few customers find a rate option to be beneficial, any potential benefits to

the customer can be outweighed by the costs to the Company for tariff administration, billing, customer service training, and so on.

- I recommend, therefore, that Rates 5 and 7 should be eliminated.

Residential Rate Design

Overview

Q. Please provide your understanding of the Company's existing residential rate structure.

A. As I understand it, the Company has six rate schedules for residential customers, which I summarize as follows:²

- Rate 8 is the main residential rate schedule which consists of a BFC, a rate for the first 800 kilowatt-hours ("kWh") per month, and a different rate for usage in excess of 800 kWh per month. In the summer months (June through September), usage above 800 kWh is more expensive than the first 800 kWh; in the other months usage above 800 kWh is less expensive than the first 800 kWh. As of May 2020, the BFC is \$9.00 per month, the first block rate is 9.040¢ per kWh, the summer second block rate is 10.226¢, and the non-summer second block rate is 8.568¢, not including fuel costs and other riders. At year-end 2019, there were approximately 571,000 customers taking service on this rate. On average, Rate 8 customers use approximately 1,090 kWh per month.
- Rate 2 is a rate for residential customers who use less than 400 kWh per month. As of May 2020, the rates include a BFC of \$9.00 per month and a charge of 6.392¢ per kWh, not including fuel and other riders. At year-end 2019, there were approximately 16,700 customers taking service on this rate. On average, these low-use customers use less than 140 kWh per month, only about 1/8 the amount of electricity used by a typical Rate 8 customer.
- Rate 1 is a rate that was designed for energy-efficient homes back in the 1990s or earlier. The rate was closed to new customers almost 25 years ago. The rate is similar in structure to the main residential rate, Rate 8, with the same BFC but the rates per kWh are approximately 4% lower

² In the descriptions that follow, all base rates are calculated from the proofs of revenues provided in response to ORS 2-20 and the present and proposed tariffs (Exhibits A and B to the Application). All customer counts and usage data are from the bill frequency analysis provided in response to ORS 2-81.

than the Rate 8 rates. At year-end 2019, there were approximately 21,100 customers remaining on this rate. On average, these customers use approximately 1,260 kWh per month, about 16% more electricity than a typical Rate 8 customer.

- Rate 6 is the replacement for Rate 1, known as an “energy saver” rate for customers whose homes meet certain energy-efficiency requirements (such as insulation requirements and an air-conditioning efficiency standard). The rates are identical to the Rate 1 rates. At the end of 2019, there were approximately 32,000 customers on this rate. Their average consumption is very similar to Rate 1 customers (averaging about 1,230 kWh per month compared to 1,260 kWh for Rate 1 customers).
- Rate 5 is an optional time-of-use (“TOU”) rate for residential customers. The rate has a higher BFC (\$13.00 per month as of May 2020), very high per-kWh charges during the on-peak hours of 2-7 pm Monday through Friday from June to September and 7 am to noon weekdays the remainder of the year (on-peak charges are 21.744¢ per kWh in the non-summer months and 24.474¢ in the summer), and off-peak charges that are almost 40% lower than the Rate 8 kWh charge for the first 800 kWh. At year-end 2019, only 69 customers were taking service on this rate. Average usage for these customers is similar to Rate 1 customers, about 15% higher than a typical Rate 8 customer.
- Rate 7 is an optional TOU rate with a demand charge for residential customers. The rate has the same, higher BFC as Rate 5, a demand charge based on the highest 15 minutes of demand during the on-peak period each month (the same peak hours as Rate 5), and much lower per-kWh charges. Only 12 customers took service on this rate as of December 2019, but they are very high-use customers. The average customer who selected this rate used more than 5,100 kWh per month in 2019 -- almost five times the amount of electricity used by a typical residential customer.

Q. How is DESC proposing to change those rates?

A. The Company is proposing to increase residential base revenues by approximately \$76.77 million, or by 9.34%.³ Approximately \$30.62 million of the increase is a result of eliminating the 3.07% tax credit. The remaining increase (\$46.16 million) would come from a combination of increases in the BFC (increasing approximately 27%, raising

³ The Company’s Application and testimony indicate a residential increase of 7.73%. That figure includes the DER surcharge and the various energy riders (fuel cost, DSM, pension costs) that are not changing significantly in this case.

1 \$18.85 million) and kWh charges (increasing 3.6% on average, raising \$27.31 million). I
2 have summarized the specific changes for each residential rate schedule in Exhibit ____
3 (SJR-1).

4 **Q. Assuming hypothetically that the Company would increase its residential base**
5 **revenues by \$46.16 million, do you agree with the way DESC proposes to collect**
6 **those additional revenues?**

7 A. No, I do not. I do not find it reasonable to collect 40% of the revenue increase from the
8 BFC, when the BFC provides less than 9% of residential base revenues under existing
9 rates. As I explain in more detail below, the Company's proposal also creates the
10 anomalous and unreasonable result of a decrease in the kWh charge for low-use (Rate 2)
11 customers in order to pay for the unwarranted increase in the Rate 2 BFC.

12 **Rate 8**

13 **Q. You explained that most residential customers are served on Rate 8. How is the**
14 **Company proposing to change the rates for those customers?**

15 A. DESC is proposing to increase the BFC from \$9.00 per month to \$11.50 per month, an
16 increase of more than 27%. In contrast, the base rate consumption charges each would
17 increase by less than 4%. All of this within the context of an overall 5.6% increase in
18 base rate revenues from Rate 8 customers (excluding the effect of eliminating the tax
19 credit).

20 **Q. Are the Company's proposed increases in Rate 8 rates reasonable?**

21 A. No, they are not reasonable. The Company claims that the BFC is well below the cost of
22 providing basic service to a customer. My review of the results of the Company's cost-

of-service study (“COSS”), however, do not support that conclusion. Most of the costs included in the COSS as being “customer-related” costs are either allocated portions of Company overheads (office buildings, vehicles, officers’ salaries, and so on) or costs that vary significantly with customers’ demand for electricity (such as overhead lines and transformers). At this time, I am not disputing the allocation of some of these costs to the residential class; but I am disputing the notion that these costs should be collected through the BFC.

Q. Can you give an example?

A. Yes. The COSS claims that \$676.5 million of the Company’s net plant serving residential customers is customer-related.⁴ This represents more than 20% of the plant investment serving residential customers. Included in this amount, however, is plant that is not directly related to connecting a customer, providing a meter, billing, or customer service. For example, this allegedly customer-related plant includes more than \$311 million in overhead lines and more than \$130 million for line transformers.⁵ While one can argue about how overhead lines should be allocated among customer classes, the investment in overhead lines is needed to meet customers’ demands for electricity. Lines and related equipment are not placed simply to connect a customer, but to serve customers’ demands for electricity. For instance, the exact same line could connect one large suburban home or an apartment building with 6 or 8 small apartment units. The network of lines is not related to the number of customers served but to electricity demands and other factors, such as the density of buildings.

⁴ DESC response to ORS 2-44.

⁵ Exhibit ____ (KRC-1), p. 3.

1 This is especially true for line transformers. Transformers are rated based on their
2 ability meet simultaneous demands for electricity. For instance, a common transformer
3 size is 25 kilovolt-amperes (kVA), which is roughly equivalent to 25 kilowatts (kW) of
4 demand. That size of transformer can be used to serve one or two commercial customers,
5 3 or 4 large homes, or 8 or more smaller homes or apartments. The transformer is not
6 related to the number of customers, but to the simultaneous demands placed on the
7 system by those customers.

8 As I mentioned, in this case I am not disputing the way these costs are allocated to
9 the residential class (largely because the proposed increase to the residential class is
10 approximately equal to the system-average increase), but I disagree that these costs
11 should be collected through the BFC.

12 **Q. What would be a reasonable BFC for Rate 8 customers?**

13 A. From the Company's COSS, I estimate that the cost of providing a residential customer
14 with a meter and service line, plus all of the customer accounting expenses and customer
15 information expenses in the COSS would result in a BFC of approximately \$9.50 per
16 month under the Company's proposed revenue requirement. I show the calculation on
17 Exhibit ____ (SJR-2). That is, the current customer charge of \$9.00 per month is
18 approximately equal to the basic customer cost under proposed rates.

19 **Q. What do you recommend?**

20 A. I recommend there should be no increase in the Rate 8 customer charge. The existing
21 customer charge of \$9.00 per month appears to be sufficient to represent the basic cost of
22 connecting a customer to the system. Any increase in revenues from Rate 8 customers,

1 after the elimination of the tax credit, should be collected by increasing the base
2 consumption charges by approximately equal percentages.

3 **Rate 2**

4 **Q. What changes has DESC proposed in the rates for low-use (Rate 2) customers?**

5 A. The Company has proposed to increase revenues from Rate 2 customers (after
6 eliminating the tax credit) by \$188,000, a 5.4% increase. To collect that \$188,000
7 increase in base revenues, however, the Company proposes to increase the BFC from
8 \$9.00 to \$10.25 per month, which would raise an additional \$246,000 in revenues. The
9 result is that the per-kWh charge is proposed to decrease by 3.4%, from 6.392¢ to 6.174¢
10 per kWh. This makes absolutely no sense either from a sound approach to ratemaking or
11 from a cost-of-service perspective.

12 Specifically, these very low-use customers are likely to be apartments,
13 condominiums, or in similar multi-unit structures. If a customer is using an average of
14 less than 200 kWh per month, their peak demands would be negligible, meaning that
15 there are likely to be many customers sharing distribution lines and line transformers.
16 Moreover, in terms of the costs of connecting a customer, there are likely to be many
17 customers sharing a single service drop to the building. In short, the cost to serve these
18 very low-use customers is likely to be much less than the cost to serve a typical, Rate 8
19 customer. That should result in Rate 2 customers paying a lower BFC than Rate 8
20 customers. Yet the current rate structure has them paying the same BFC.

1 **Q. Is the notion that these low-use customers are less costly to serve an unusual one?**

2 A. No, it is not. First, the Company recognizes that fact by charging these customers a much
3 lower base rate per kWh than is paid by Rate 8 customers. At present rates, the
4 consumption charge for Rate 2 is about 30% less than the Rate 8 charge (using the Rate 8
5 charge for the first 800 kWh). This is a reasonable reflection of the much lower cost to
6 serve these very low-use customers.

7 Moreover, I am aware of other electric utilities that have different rate schedules
8 for customers in apartment buildings or other multi-unit structures. Those rates are
9 uniformly lower than the rates for stand-alone, single-family homes precisely because of
10 the lower cost per customer of providing basic facilities, as well as the lower demands
11 placed on the system by low-use customers.

12 **Q. What do you recommend for Rate 2 (low-use) rates?**

13 A. I recommend that the Rate 2 BFC and the rate per kWh should be set equal to
14 approximately 70% of the Rate 8 rate (using the Rate 8 rate per kWh for the first 800
15 kWh per month). The BFC can be rounded to the next highest \$0.25 increment. Thus,
16 under my proposal to have the Rate 8 BFC stay at \$9.00 per month, the Rate 2 BFC
17 would be reduced to \$6.50 per month.

18 ***Other Residential Rates***

19 **Q. Do you have any other recommendations for the design of DESC's residential rates?**

20 A. Yes. I support the notion of providing a lower consumption charge for customers who
21 live in high-efficiency homes, but only if the discount is cost-justified. The per-kWh
22 charges in Rate 6 represent approximately a 4% discount off of the comparable Rate 8

1 charges. I have a concern, however, because the average customer on Rate 6 actually
2 uses more electricity than the average Rate 8 customer. If the rate is supposed to
3 encourage energy efficiency, I would suggest that a separate investigation may be
4 warranted to ensure that the discounted rate is truly providing a benefit to the system (for
5 example, by reducing the need for additional generation or transmission upgrades).

6 In designing rates, for Rate 6 (and the frozen Rate 1 customers who pay the same
7 rates as Rate 6 customers), I will use a standard discount of 4% off of the Rate 8 per-kWh
8 charges. This is approximately the same discount embedded in existing rates. I would
9 encourage the Commission, though, to open a separate investigation to require the
10 Company to demonstrate that the continuation of this rate, as well as the level of
11 discount, are consistent with cost-based ratemaking.

12 **Q. Do you have any other concerns with the existing residential rate offerings?**

13 A. Yes. As I mentioned, the Company has an optional TOU rate (Rate 5) and an optional
14 TOU demand rate (Rate 7). Both rates have been selected by very few customers -- at
15 year-end 2019 only 69 customers had selected Rate 5 and only 12 customers were on
16 Rate 7. I question whether it is reasonable for the Company to incur the costs associated
17 with tariff administration, billing, customer service training, and so on for rates that
18 appeal to so few residential customers. Generally, I don't mind providing customers with
19 options, but when so few customers find an option beneficial, the costs to the Company
20 of providing some additional choice can far outweigh the benefits provided to a few
21 customers. I recommend, therefore, that Rates 5 and 7 be eliminated.

Recommended Residential Rates

Q. Have you prepared rates that would implement your proposed rate design changes?

A. Yes. On Exhibit ____ (SJR-3) I show residential rates that would implement my recommendations. That schedule includes a proof of revenues showing that the rates would collect approximately the same amount of revenues as the Company's proposed residential rates.

Q. If the Commission finds the Company is entitled to less of a rate increase than requested, how should that be reflected in the design of residential rates?

A. If the Commission finds that the revenue requirement is less than the Company requested, I recommend that the Rate 8 BFC should remain at its current level of \$9.00 per month and that any change be reflected in the per-kWh charges. I also recommend continuing to use the same ratios I discussed above; specifically, the Rate 2 BFC and consumption charge should be approximately 70% of the comparable Rate 8 charges, the Rate 1/6 BFC should equal the Rate 8 BFC, and the Rate 1/6 kWh charges should be approximately 96% of the Rate 8 charges.

Q. Does this conclude your direct testimony?

A. Yes, it does.

Appendix A

Scott J. Rubin

Attorney + Consultant

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Current Position

Public Utility Attorney and Consultant. 1994 to present. I provide legal, consulting, and expert witness services to various organizations interested in the regulation of public utilities.

Previous Positions

Lecturer in Computer Science, Susquehanna University, Selinsgrove, PA. 1993 to 2000.

Senior Assistant Consumer Advocate, Office of Consumer Advocate, Harrisburg, PA. 1990 to 1994.

I supervised the administrative and technical staff and shared with one other senior attorney the supervision of a legal staff of 14 attorneys.

Assistant Consumer Advocate, Office of Consumer Advocate, Harrisburg, PA. 1983 to 1990.

Associate, Laws and Staruch, Harrisburg, PA. 1981 to 1983.

Law Clerk, U.S. Environmental Protection Agency, Washington, DC. 1980 to 1981.

Research Assistant, Rockville Consulting Group, Washington, DC. 1979.

Current Professional Activities

Member, American Bar Association, Infrastructure and Regulated Industries Section.

Member, American Water Works Association.

Admitted to practice law before the Supreme Court of Pennsylvania, the New York State Court of Appeals, the United States District Court for the Middle District of Pennsylvania, the United States Court of Appeals for the Third Circuit, and the Supreme Court of the United States.

Served as peer reviewer for *Electricity Journal*, *Journal American Water Works Association*, *Journal of Benefit-Cost Analysis*, and *Utilities Policy*.

Previous Professional Activities

Member, American Water Works Association, Rates and Charges Subcommittee, 1998-2001.

Member, Federal Advisory Committee on Disinfectants and Disinfection By-Products in Drinking Water, U.S. Environmental Protection Agency, Washington, DC. 1992 to 1994.

Chair, Water Committee, National Association of State Utility Consumer Advocates, Washington, DC. 1990 to 1994; member of committee from 1988 to 1990.

Member, Board of Directors, Pennsylvania Energy Development Authority, Harrisburg, PA. 1990 to 1994.

Member, Small Water Systems Advisory Committee, Pennsylvania Department of Environmental Resources, Harrisburg, PA. 1990 to 1992.

Member, Ad Hoc Committee on Emissions Control and Acid Rain Compliance, National Association of State Utility Consumer Advocates, 1991.

Member, Nitrogen Oxides Subcommittee of the Acid Rain Advisory Committee, U.S. Environmental Protection Agency, Washington DC. 1991.

Education

J.D. with Honors, George Washington University, Washington, DC. 1981.

B.A. with Distinction in Political Science, Pennsylvania State University, University Park, PA. 1978.

Publications and Presentations (* denotes peer-reviewed publications)

1. "Quality of Service Issues," a speech to the Pennsylvania Public Utility Commission Consumer Conference, State College, PA. 1988.
2. K.L. Pape and S.J. Rubin, "Current Developments in Water Utility Law," in *Pennsylvania Public Utility Law* (Pennsylvania Bar Institute). 1990.
3. Presentation on Water Utility Holding Companies to the Annual Meeting of the National Association of State Utility Consumer Advocates, Orlando, FL. 1990.
4. "How the OCA Approaches Quality of Service Issues," a speech to the Pennsylvania Chapter of the National Association of Water Companies. 1991.
5. Presentation on the Safe Drinking Water Act to the Mid-Year Meeting of the National Association of State Utility Consumer Advocates, Seattle, WA. 1991.
6. "A Consumer Advocate's View of Federal Pre-emption in Electric Utility Cases," a speech to the Pennsylvania Public Utility Commission Electricity Conference. 1991.
7. Workshop on Safe Drinking Water Act Compliance Issues at the Mid-Year Meeting of the National Association of State Utility Consumer Advocates, Washington, DC. 1992.
8. Formal Discussant, Regional Acid Rain Workshop, U.S. Environmental Protection Agency and National Regulatory Research Institute, Charlotte, NC. 1992.
9. S.J. Rubin and S.P. O'Neal, "A Quantitative Assessment of the Viability of Small Water Systems in Pennsylvania," *Proceedings of the Eighth NARUC Biennial Regulatory Information Conference*, National Regulatory Research Institute (Columbus, OH 1992), IV:79-97.
10. "The OCA's Concerns About Drinking Water," a speech to the Pennsylvania Public Utility Commission Water Conference. 1992.
11. Member, Technical Horizons Panel, Annual Meeting of the National Association of Water Companies, Hilton Head, SC. 1992.
12. M.D. Klein and S.J. Rubin, "Water and Sewer -- Update on Clean Streams, Safe Drinking Water, Waste Disposal and Pennvest," *Pennsylvania Public Utility Law Conference* (Pennsylvania Bar Institute). 1992.

13. Presentation on Small Water System Viability to the Technical Assistance Center for Small Water Companies, Pa. Department of Environmental Resources, Harrisburg, PA. 1993
14. "The Results Through a Public Service Commission Lens," speaker and participant in panel discussion at Symposium: "Impact of EPA's Allowance Auction," Washington, DC, sponsored by AER*X. 1993.
15. "The Hottest Legislative Issue of Today -- Reauthorization of the Safe Drinking Water Act," speaker and participant in panel discussion at the Annual Conference of the American Water Works Association, San Antonio, TX. 1993.
16. "Water Service in the Year 2000," a speech to the Conference: "Utilities and Public Policy III: The Challenges of Change," sponsored by the Pennsylvania Public Utility Commission and the Pennsylvania State University, University Park, PA. 1993.
17. "Government Regulation of the Drinking Water Supply: Is it Properly Focused?," speaker and participant in panel discussion at the National Consumers League's Forum on Drinking Water Safety and Quality, Washington, DC. 1993. Reprinted in *Rural Water*, Vol. 15 No. 1 (Spring 1994), pages 13-16.
18. "Telephone Penetration Rates for Renters in Pennsylvania," a study prepared for the Pennsylvania Office of Consumer Advocate. 1993.
19. "Zealous Advocacy, Ethical Limitations and Considerations," participant in panel discussion at "Continuing Legal Education in Ethics for Pennsylvania Lawyers," sponsored by the Office of General Counsel, Commonwealth of Pennsylvania, State College, PA. 1993.
20. "Serving the Customer," participant in panel discussion at the Annual Conference of the National Association of Water Companies, Williamsburg, VA. 1993.
21. "A Simple, Inexpensive, Quantitative Method to Assess the Viability of Small Water Systems," a speech to the Water Supply Symposium, New York Section of the American Water Works Association, Syracuse, NY. 1993.
22. * S.J. Rubin, "Are Water Rates Becoming Unaffordable?," *Journal American Water Works Association*, Vol. 86, No. 2 (February 1994), pages 79-86.
23. "Why Water Rates Will Double (If We're Lucky): Federal Drinking Water Policy and Its Effect on New England," a briefing for the New England Conference of Public Utilities Commissioners, Andover, MA. 1994.
24. "Are Water Rates Becoming Unaffordable?," a speech to the Legislative and Regulatory Conference, Association of Metropolitan Water Agencies, Washington, DC. 1994.
25. "Relationships: Drinking Water, Health, Risk and Affordability," speaker and participant in panel discussion at the Annual Meeting of the Southeastern Association of Regulatory Commissioners, Charleston, SC. 1994.
26. "Small System Viability: Assessment Methods and Implementation Issues," speaker and participant in panel discussion at the Annual Conference of the American Water Works Association, New York, NY. 1994.

27. S.J. Rubin, "How much should we spend to save a life?," *Seattle Journal of Commerce*, August 18, 1994 (Protecting the Environment Supplement), pages B-4 to B-5.
28. S. Rubin, S. Bernow, M. Fulmer, J. Goldstein, and I. Peters, *An Evaluation of Kentucky-American Water Company's Long-Range Planning*, prepared for the Utility and Rate Intervention Division, Kentucky Office of the Attorney General (Tellus Institute 1994).
29. S.J. Rubin, "Small System Monitoring: What Does It Mean?," *Impacts of Monitoring for Phase II/V Drinking Water Regulations on Rural and Small Communities* (National Rural Water Association 1994), pages 6-12.
30. "Surviving the Safe Drinking Water Act," speaker at the Annual Meeting of the National Association of State Utility Consumer Advocates, Reno, NV. 1994.
31. "Safe Drinking Water Act Compliance -- Ratemaking Implications," speaker at the National Conference of Regulatory Attorneys, Scottsdale, AZ. 1995. Reprinted in *Water*, Vol. 36, No. 2 (Summer 1995), pages 28-29.
32. S.J. Rubin, "Water: Why Isn't it Free? The Case of Small Utilities in Pennsylvania," *Utilities, Consumers & Public Policy: Issues of Quality, Affordability, and Competition, Proceedings of the Fourth Utilities, Consumers and Public Policy Conference* (Pennsylvania State University 1995), pages 177-183.
33. S.J. Rubin, "Water Rates: An Affordable Housing Issue?," *Home Energy*, Vol. 12 No. 4 (July/August 1995), page 37.
34. Speaker and participant in the Water Policy Forum, sponsored by the National Association of Water Companies, Naples, FL. 1995.
35. Participant in panel discussion on "The Efficient and Effective Maintenance and Delivery of Potable Water at Affordable Rates to the People of New Jersey," at The New Advocacy: Protecting Consumers in the Emerging Era of Utility Competition, a conference sponsored by the New Jersey Division of the Ratepayer Advocate, Newark, NJ. 1995.
36. J.E. Cromwell III, and S.J. Rubin, *Development of Benchmark Measures for Viability Assessment* (Pa. Department of Environmental Protection 1995).
37. S. Rubin, "A Nationwide Practice from a Small Town in Pa.," *Lawyers & the Internet – a Supplement to the Legal Intelligencer and Pa. Law Weekly* (February 12, 1996), page S6.
38. "Changing Customers' Expectations in the Water Industry," speaker at the Mid-America Regulatory Commissioners Conference, Chicago, IL. 1996, reprinted in *Water* Vol. 37 No. 3 (Winter 1997), pages 12-14.
39. "Recent Federal Legislation Affecting Drinking Water Utilities," speaker at Pennsylvania Public Utility Law Conference, Pennsylvania Bar Institute, Hershey, PA. 1996.
40. "Clean Water at Affordable Rates: A Ratepayers Conference," moderator at symposium sponsored by the New Jersey Division of Ratepayer Advocate, Trenton, NJ. 1996.

41. "Water Workshop: How New Laws Will Affect the Economic Regulation of the Water Industry," speaker at the Annual Meeting of the National Association of State Utility Consumer Advocates, San Francisco, CA. 1996.
42. * E.T. Castillo, S.J. Rubin, S.K. Keefe, and R.S. Raucher, "Restructuring Small Systems," *Journal American Water Works Association*, Vol. 89, No. 1 (January 1997), pages 65-74.
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9. *An Investigation of the Sources of Supply and Future Demand of Kentucky-American Water Company*, Ky. Public Service Commission, Case No. 93-434. 1994. Concerning supply and demand planning, on behalf of the Kentucky Office of Attorney General, Utility and Rate Intervention Division.

10. *The Petition on Behalf of Gordon's Corner Water Company for an Increase in Rates*, New Jersey Board of Public Utilities, Docket No. WR94020037. 1994. Concerning revenue requirements and rate design, on behalf of the New Jersey Division of Ratepayer Advocate.
11. *Re Consumers Maine Water Company Request for Approval of Contracts with Consumers Water Company and with Ohio Water Service Company*, Me. Public Utilities Commission, Docket No. 94-352. 1994. Concerning affiliated interest agreements, on behalf of the Maine Public Advocate.
12. *In the Matter of the Application of Potomac Electric Power Company for Approval of its Third Least-Cost Plan*, D.C. Public Service Commission, Formal Case No. 917, Phase II. 1995. Concerning Clean Air Act implementation and environmental externalities, on behalf of the District of Columbia Office of the People's Counsel.
13. *In the Matter of the Regulation of the Electric Fuel Component Contained within the Rate Schedules of the Dayton Power and Light Company and Related Matters*, Ohio Public Utilities Commission, Case No. 94-105-EL-EFC. 1995. Concerning Clean Air Act implementation (case settled before testimony was filed), on behalf of the Office of the Ohio Consumers' Counsel.
14. *Kennebec Water District Proposed Increase in Rates*, Maine Public Utilities Commission, Docket No. 95-091. 1995. Concerning the reasonableness of planning decisions and the relationship between a publicly owned water district and a very large industrial customer, on behalf of the Maine Public Advocate.
15. *Winter Harbor Water Company, Proposed Schedule Revisions to Introduce a Readiness-to-Serve Charge*, Maine Public Utilities Commission, Docket No. 95-271. 1995 and 1996. Concerning standards for, and the reasonableness of, imposing a readiness to serve charge and/or exit fee on the customers of a small investor-owned water utility, on behalf of the Maine Public Advocate.
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25. *Bangor Hydro-Electric Company Petition for Temporary Rate Increase*, Maine Public Utilities Commission, Docket No. 97-201. 1997. Concerning the reasonableness of granting an electric utility's request for emergency rate relief, and related issues, on behalf of the Maine Public Advocate.
26. *Testimony concerning H.B. 1068 Relating to Restructuring of the Natural Gas Utility Industry*, Consumer Affairs Committee, Pennsylvania House of Representatives. 1997. Concerning the provisions of proposed legislation to restructure the natural gas utility industry in Pennsylvania, on behalf of the Pennsylvania AFL-CIO Gas Utility Caucus.
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29. *Bangor Gas Company, L.L.C., Petition for Approval to Furnish Gas Service in the State of Maine*, Maine Public Utilities Commission, Docket No. 97-795. 1998. Concerning the standards and public policy

concerns involved in issuing a certificate of public convenience and necessity for a new natural gas utility, and related ratemaking issues, on behalf of the Maine Public Advocate.

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32. *Olde Port Mariner Fleet, Inc. Complaint Regarding Casco Bay Island Transit District's Tour and Charter Service*, Maine Public Utilities Commission, Docket No. 98-161. 1998. Concerning the standards and requirements for allocating costs and separating operations between regulated and unregulated operations of a transportation utility, on behalf of the Maine Public Advocate and Olde Port Mariner Fleet, Inc.
33. *Central Maine Power Company Investigation of Stranded Costs, Transmission and Distribution Utility Revenue Requirements, and Rate Design*, Maine Public Utilities Commission, Docket No. 97-580. 1998. Concerning the treatment of existing rate discounts when designing rates for a transmission and distribution electric utility, on behalf of the Maine Public Advocate.
34. *Pa. Public Utility Commission v. Manufacturers Water Company*, Pennsylvania Public Utility Commission, Docket No. R-00984275. 1998. Concerning rate design on behalf of the Manufacturers Water Industrial Users.
35. *In the Matter of Petition of Pennsgrove Water Supply Company for an Increase in Rates for Water Service*, New Jersey Board of Public Utilities, Docket No. WR98030147. 1998. Concerning the revenue requirements, level of affiliated charges, and rate design for a water utility, on behalf of the New Jersey Division of Ratepayer Advocate.
36. *In the Matter of Petition of Seaview Water Company for an Increase in Rates for Water Service*, New Jersey Board of Public Utilities, Docket No. WR98040193. 1999. Concerning the revenue requirements and rate design for a water utility, on behalf of the New Jersey Division of Ratepayer Advocate.
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40. *County of Suffolk, et al. v. Long Island Lighting Company, et al.*, U.S. District Court for the Eastern District of New York, Case No. 87-CV-0646. 2000. Submitted two affidavits concerning the calculation and collection of court-ordered refunds to utility customers, on behalf of counsel for the plaintiffs.
41. *Northern Utilities, Inc., Petition for Waivers from Chapter 820*, Maine Public Utilities Commission, Docket No. 99-254. 2000. Concerning the standards and requirements for defining and separating a natural gas utility's core and non-core business functions, on behalf of the Maine Public Advocate.
42. *Notice of Adjustment of the Rates of Kentucky-American Water Company*, Kentucky Public Service Commission, Case No. 2000-120. 2000. Concerning the appropriate methods for allocating costs and designing rates, on behalf of the Kentucky Office of Attorney General.
43. *In the Matter of the Petition of Gordon's Corner Water Company for an Increase in Rates and Charges for Water Service*, New Jersey Board of Public Utilities, Docket No. WR00050304. 2000. Concerning the revenue requirements and rate design for a water utility, on behalf of the New Jersey Division of Ratepayer Advocate.
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51. *Joint Petition of New Jersey-American Water Company, Inc. and Thames Water Aqua Holdings GmbH for Approval of Change in Control of New Jersey-American Water Company, Inc.*, New Jersey Board of Public Utilities, Docket No. WM01120833. 2002. Concerning the risks and benefits associated with the proposed acquisition of a water utility, on behalf of the New Jersey Division of Ratepayer Advocate.
52. *Illinois-American Water Company, Proposed General Increase in Water Rates*, Illinois Commerce Commission, Docket No. 02-0690. 2003. Concerning rate design and cost of service issues, on behalf of the Illinois Office of the Attorney General.
53. *Pennsylvania Public Utility Commission v. Pennsylvania-American Water Company*, Pennsylvania Public Utility Commission, Docket No. R-00038304. 2003. Concerning rate design and cost of service issues, on behalf of the Pennsylvania Office of Consumer Advocate.
54. *West Virginia-American Water Company*, West Virginia Public Service Commission, Case No. 03-0353-W-42T. 2003. Concerning affordability, rate design, and cost of service issues, on behalf of the West Virginia Consumer Advocate Division.
55. *Petition of Seabrook Water Corp. for an Increase in Rates and Charges for Water Service*, New Jersey Board of Public Utilities, Docket No. WR3010054. 2003. Concerning revenue requirements, rate design, prudence, and regulatory policy, on behalf of the New Jersey Division of Ratepayer Advocate.
56. *Chesapeake Ranch Water Co. v. Board of Commissioners of Calvert County*, U.S. District Court for Southern District of Maryland, Civil Action No. 8:03-cv-02527-AW. 2004. Submitted expert report concerning the expected level of rates under various options for serving new commercial development, on behalf of the plaintiff.
57. *Testimony concerning Lead in Drinking Water*, Committee on Government Reform, United States House of Representatives. 2004. Concerning the trade-offs faced by low-income households when drinking water costs increase, including an analysis of H.R. 4268.
58. *West Virginia-American Water Company*, West Virginia Public Service Commission, Case No. 04-0373-W-42T. 2004. Concerning affordability and rate comparisons, on behalf of the West Virginia Consumer Advocate Division.
59. *West Virginia-American Water Company*, West Virginia Public Service Commission, Case No. 04-0358-W-PC. 2004. Concerning costs, benefits, and risks associated with a wholesale water sales contract, on behalf of the West Virginia Consumer Advocate Division.
60. *Kentucky-American Water Company*, Kentucky Public Service Commission, Case No. 2004-00103. 2004. Concerning rate design and tariff issues, on behalf of the Kentucky Office of Attorney General.

61. *New Landing Utility, Inc.*, Illinois Commerce Commission, Docket No. 04-0610. 2005. Concerning the adequacy of service provided by, and standards of performance for, a water and wastewater utility, on behalf of the Illinois Office of Attorney General.
62. *People of the State of Illinois v. New Landing Utility, Inc.*, Circuit Court of the 15th Judicial District, Ogle County, Illinois, No. 00-CH-97. 2005. Concerning the standards of performance for a water and wastewater utility, including whether a receiver should be appointed to manage the utility's operations, on behalf of the Illinois Office of Attorney General.
63. *Hope Gas, Inc. d/b/a Dominion Hope*, West Virginia Public Service Commission, Case No. 05-0304-G-42T. 2005. Concerning the utility's relationships with affiliated companies, including an appropriate level of revenues and expenses associated with services provided to and received from affiliates, on behalf of the West Virginia Consumer Advocate Division.
64. *Monongahela Power Co. and The Potomac Edison Co.*, West Virginia Public Service Commission, Case Nos. 05-0402-E-CN and 05-0750-E-PC. 2005. Concerning review of a plan to finance the construction of pollution control facilities and related issues, on behalf of the West Virginia Consumer Advocate Division.
65. *Joint Application of Duke Energy Corp., et al., for Approval of a Transfer and Acquisition of Control*, Case Kentucky Public Service Commission, No. 2005-00228. 2005. Concerning the risks and benefits associated with the proposed acquisition of an energy utility, on behalf of the Kentucky Office of the Attorney General.
66. *Commonwealth Edison Company proposed general revision of rates, restructuring and price unbundling of bundled service rates, and revision of other terms and conditions of service*, Illinois Commerce Commission, Docket No. 05-0597. 2005. Concerning rate design and cost of service, on behalf of the Illinois Office of Attorney General.
67. *Pennsylvania Public Utility Commission v. Aqua Pennsylvania, Inc.*, Pennsylvania Public Utility Commission, Docket No. R-00051030. 2006. Concerning rate design and cost of service, on behalf of the Pennsylvania Office of Consumer Advocate.
68. *Central Illinois Light Company d/b/a AmerenCILCO, Central Illinois Public Service Company d/b/a AmerenCIPS, and Illinois Power Company d/b/a AmerenIP, proposed general increases in rates for delivery service*, Illinois Commerce Commission, Docket Nos. 06-0070, et al. 2006. Concerning rate design and cost of service, on behalf of the Illinois Office of Attorney General.
69. *Grens, et al., v. Illinois-American Water Co.*, Illinois Commerce Commission, Docket Nos. 5-0681, et al. 2006. Concerning utility billing, metering, meter reading, and customer service practices, on behalf of the Illinois Office of Attorney General and the Village of Homer Glen, Illinois.
70. *Commonwealth Edison Company Petition for Approval of Tariffs Implementing ComEd's Proposed Residential Rate Stabilization Program*, Illinois Commerce Commission, Docket No. 06-0411. 2006. Concerning a utility's proposed purchased power phase-in proposal, in behalf of the Illinois Office of Attorney General.
71. *Illinois-American Water Company, Application for Approval of its Annual Reconciliation of Purchased Water and Purchased Sewage Treatment Surcharges Pursuant to 83 Ill. Adm. Code 655*, Illinois Commerce

Commission, Docket No. 06-0196. 2006. Concerning the reconciliation of purchased water and sewer charges, on behalf of the Illinois Office of Attorney General and the Village of Homer Glen, Illinois.

72. *Illinois-American Water Company, et al.*, Illinois Commerce Commission, Docket No. 06-0336. 2006. Concerning the risks and benefits associated with the proposed divestiture of a water utility, on behalf of the Illinois Office of Attorney General.
73. *Joint Petition of Kentucky-American Water Company, et al.*, Kentucky Public Service Commission, Docket No. 2006-00197. 2006. Concerning the risks and benefits associated with the proposed divestiture of a water utility, on behalf of the Kentucky Office of Attorney General.
74. *Aqua Illinois, Inc. Proposed Increase in Water Rates for the Kankakee Division*, Illinois Commerce Commission, Docket No. 06-0285. 2006. Concerning various revenue requirement, rate design, and tariff issues, on behalf of the County of Kankakee.
75. *Housing Authority for the City of Pottsville v. Schuylkill County Municipal Authority*, Court of Common Pleas of Schuylkill County, Pennsylvania, No. S-789-2000. 2006. Concerning the reasonableness and uniformity of rates charged by a municipal water authority, on behalf of the Pottsville Housing Authority.
76. *Application of Pennsylvania-American Water Company for Approval of a Change in Control*, Pennsylvania Public Utility Commission, Docket No. A-212285F0136. 2006. Concerning the risks and benefits associated with the proposed divestiture of a water utility, on behalf of the Pennsylvania Office of Consumer Advocate.
77. *Application of Artesian Water Company, Inc., for an Increase in Water Rates*, Delaware Public Service Commission, Docket No. 06-158. 2006. Concerning rate design and cost of service, on behalf of the Staff of the Delaware Public Service Commission.
78. *Central Illinois Light Company, Central Illinois Public Service Company, and Illinois Power Company: Petition Requesting Approval of Deferral and Securitization of Power Costs*, Illinois Commerce Commission, Docket No. 06-0448. 2006. Concerning a utility's proposed purchased power phase-in proposal, in behalf of the Illinois Office of Attorney General.
79. *Petition of Pennsylvania-American Water Company for Approval to Implement a Tariff Supplement Revising the Distribution System Improvement Charge*, Pennsylvania Public Utility Commission, Docket No. P-00062241. 2007. Concerning the reasonableness of a water utility's proposal to increase the cap on a statutorily authorized distribution system surcharge, on behalf of the Pennsylvania Office of Consumer Advocate.
80. *Adjustment of the Rates of Kentucky-American Water Company*, Kentucky Public Service Commission, Case No. 2007-00143. 2007. Concerning rate design and cost of service, on behalf of the Kentucky Office of Attorney General.
81. *Application of Kentucky-American Water Company for a Certificate of Convenience and Necessity Authorizing the Construction of Kentucky River Station II, Associated Facilities and Transmission Main*, Kentucky Public Service Commission, Case No. 2007-00134. 2007. Concerning the life-cycle costs of a planned water supply source and the imposition of conditions on the construction of that project, on behalf of the Kentucky Office of Attorney General.

82. *Pa. Public Utility Commission v. Pennsylvania-American Water Company*, Pennsylvania Public Utility Commission, Docket No. R-00072229. 2007. Concerning rate design and cost of service, on behalf of the Pennsylvania Office of Consumer Advocate.
83. *Illinois-American Water Company Application for Approval of its Annual Reconciliation of Purchased Water and Purchased Sewage Treatment Surcharges*, Illinois Commerce Commission, Docket No. 07-0195. 2007. Concerning the reconciliation of purchased water and sewer charges, on behalf of the Illinois Office of Attorney General.
84. *In the Matter of the Application of Aqua Ohio, Inc. to Increase Its Rates for Water Service Provided in the Lake Erie Division*, Public Utilities Commission of Ohio, Case No.07-0564-WW-AIR. 2007. Concerning rate design and cost of service, on behalf of the Office of the Ohio Consumers' Counsel.
85. *Pa. Public Utility Commission v. Aqua Pennsylvania Inc.*, Pennsylvania Public Utility Commission, Docket No. R-00072711. 2008. Concerning rate design, on behalf of the Masthope Property Owners Council.
86. *Illinois-American Water Company Proposed increase in water and sewer rates*, Illinois Commerce Commission, Docket No. 07-0507. 2008. Concerning rate design and demand studies, on behalf of the Illinois Office of Attorney General.
87. *Central Illinois Light Company, d/b/a AmerenCILCO; Central Illinois Public Service Company, d/b/a AmerenCIPS; Illinois Power Company, d/b/a AmerenIP: Proposed general increase in rates for electric delivery service*, Illinois Commerce Commission Docket Nos. 07-0585, 07-0586, 07-0587. 2008. Concerning rate design and cost of service studies, on behalf of the Illinois Office of Attorney General.
88. *Commonwealth Edison Company: Proposed general increase in electric rates*, Illinois Commerce Commission Docket No. 07-0566. 2008. Concerning rate design and cost of service studies, on behalf of the Illinois Office of Attorney General.
89. *In the Matter of Application of Ohio American Water Co. to Increase Its Rates*, Public Utilities Commission of Ohio, Case No. 07-1112-WS-AIR. 2008. Concerning rate design and cost of service, on behalf of the Office of the Ohio Consumers' Counsel.
90. *In the Matter of the Application of The East Ohio Gas Company d/b/a Dominion East Ohio for Authority to Increase Rates for its Gas Service*, Public Utilities Commission of Ohio, Case Nos. 07-829-GA-AIR, et al. 2008. Concerning the need for, and structure of, an accelerated infrastructure replacement program and rate surcharge, on behalf of the Office of the Ohio Consumers' Counsel.
91. *Pa. Public Utility Commission v. Pennsylvania American Water Company*, Pennsylvania Public Utility Commission, Docket No. R-2008-2032689. 2008. Concerning rate design, cost of service study, and other tariff issues, on behalf of the Pennsylvania Office of Consumer Advocate.
92. *Pa. Public Utility Commission v. York Water Company*, Pennsylvania Public Utility Commission, Docket No. R-2008-2023067. 2008. Concerning rate design, cost of service study, and other tariff issues, on behalf of the Pennsylvania Office of Consumer Advocate.

93. *Northern Illinois Gas Company d/b/a Nicor Gas Company*, Illinois Commerce Commission, Docket No. 08-0363. 2008. Concerning rate design, cost of service, and automatic rate adjustments, on behalf of the Illinois Office of Attorney General.
94. *West Virginia American Water Company*, West Virginia Public Service Commission, Case No. 08-0900-W-42T. 2008. Concerning affiliated interest charges and relationships, on behalf of the Consumer Advocate Division of the Public Service Commission of West Virginia.
95. *Illinois-American Water Company Application for Approval of its Annual Reconciliation of Purchased Water and Purchased Sewage Treatment Surcharges*, Illinois Commerce Commission, Docket No. 08-0218. 2008. Concerning the reconciliation of purchased water and sewer charges, on behalf of the Illinois Office of Attorney General.
96. *In the Matter of Application of Duke Energy Ohio, Inc. for an Increase in Electric Rates*, Public Utilities Commission of Ohio, Case No. 08-0709-EL-AIR. 2009. Concerning rate design and cost of service, on behalf of the Office of the Ohio Consumers' Counsel.
97. *The Peoples Gas Light and Coke Company and North Shore Gas Company Proposed General Increase in Rates for Gas Service*, Illinois Commerce Commission, Docket Nos. 09-0166 and 09-0167. 2009. Concerning rate design and automatic rate adjustments on behalf of the Illinois Office of Attorney General, Citizens Utility Board, and City of Chicago.
98. *Illinois-American Water Company Proposed Increase in Water and Sewer Rates*, Illinois Commerce Commission, Docket No. 09-0319. 2009. Concerning rate design and cost of service on behalf of the Illinois Office of Attorney General and Citizens Utility Board.
99. *Pa. Public Utility Commission v. Aqua Pennsylvania Inc.*, Pennsylvania Public Utility Commission, Docket No. R-2009-2132019. 2010. Concerning rate design, cost of service, and automatic adjustment tariffs, on behalf of the Pennsylvania Office of Consumer Advocate.
100. *Apple Canyon Utility Company and Lake Wildwood Utilities Corporation Proposed General Increases in Water Rates*, Illinois Commerce Commission, Docket Nos. 09-0548 and 09-0549. 2010. Concerning parent-company charges, quality of service, and other matters, on behalf of Apple Canyon Lake Property Owners' Association and Lake Wildwood Association, Inc.
101. *Application of Aquarion Water Company of Connecticut to Amend its Rate Schedules*, Connecticut Department of Public Utility Control, Docket No. 10-02-13. 2010. Concerning rate design, proof of revenues, and other tariff issues, on behalf of the Connecticut Office of Consumer Counsel.
102. *Illinois-American Water Company Annual Reconciliation of Purchased Water and Sewage Treatment Surcharges*, Illinois Commerce Commission, Docket No. 09-0151. 2010. Concerning the reconciliation of purchased water and sewer charges, on behalf of the Illinois Office of Attorney General.
103. *Pa. Public Utility Commission v. Pennsylvania-American Water Co.*, Pennsylvania Public Utility Commission, Docket Nos. R-2010-2166212, et al. 2010. Concerning rate design and cost of service study for four wastewater utility districts, on behalf of the Pennsylvania Office of Consumer Advocate.
104. *Central Illinois Light Company d/b/a AmerenCILCO, Central Illinois Public Service Company d/b/a AmerenCIPS, Illinois Power Company d/b/a AmerenIP Petition for accounting order*, Illinois Commerce

Commission, Docket No. 10-0517. 2010. Concerning ratemaking procedures for a multi-district electric and natural gas utility, on behalf of the Illinois Office of Attorney General.

105. *Commonwealth Edison Company Petition for General Increase in Delivery Service Rates*, Illinois Commerce Commission Docket No. 10-0467. 2010. Concerning rate design and cost of service study, on behalf of the Illinois Office of Attorney General.
106. *Pa. Public Utility Commission v. City of Lancaster Bureau of Water*, Pennsylvania Public Utility Commission, Docket No. R-2010-2179103. 2010. Concerning rate design, cost of service, and cost allocation, on behalf of the Pennsylvania Office of Consumer Advocate.
107. *Application of Yankee Gas Services Company for Amended Rate Schedules*, Connecticut Department of Public Utility Control, Docket No. 10-12-02. 2011. Concerning rate design and cost of service for a natural gas utility, on behalf of the Connecticut Office of Consumers' Counsel.
108. *California-American Water Company*, California Public Utilities Commission, Application 10-07-007. 2011. Concerning rate design and cost of service for multiple water-utility service areas, on behalf of The Utility Reform Network.
109. *Little Washington Wastewater Company, Inc., Masthope Wastewater Division*, Pennsylvania Public Utility Commission Docket No. R-2010-2207833. 2011. Concerning rate design and various revenue requirements issues, on behalf of the Masthope Property Owners Council.
110. *In the matter of Pittsfield Aqueduct Company, Inc.*, New Hampshire Public Utilities Commission Case No. DW 10-090. 2011. Concerning rate design and cost of service on behalf of the New Hampshire Office of the Consumer Advocate.
111. *In the matters of Pennichuck Water Works, Inc. Permanent Rate Case and Petition for Approval of Special Contract with Anheuser-Busch, Inc.*, New Hampshire Public Utilities Commission Case Nos. DW 10-091 and DW 11-014. 2011. Concerning rate design, cost of service, and contract interpretation on behalf of the New Hampshire Office of the Consumer Advocate.
112. *Artesian Water Co., Inc. v. Chester Water Authority*, U.S. District Court for the Eastern District of Pennsylvania Case No. 10-CV-07453-JP. 2011. Concerning cost of service, ratemaking methods, and contract interpretation on behalf of Chester Water Authority.
113. *North Shore Gas Company and The Peoples Gas Light and Coke Company Proposed General Increases in Rates for Gas Service*, Illinois Commerce Commission, Docket Nos. 11-0280 and 11-0281. 2011. Concerning rate design and cost of service on behalf of the Illinois Office of Attorney General, the Citizens Utility Board, and the City of Chicago.
114. *Ameren Illinois Company: Proposed general increase in electric delivery service rates and gas delivery service rates*, Illinois Commerce Commission, Docket Nos. 11-0279 and 11-0282. 2011. Concerning rate design and cost of service for natural gas and electric distribution service, on behalf of the Illinois Office of Attorney General and the Citizens Utility Board.
115. *Pa. Public Utility Commission v. Pennsylvania-American Water Co.*, Pennsylvania Public Utility Commission, Docket No. R-2011-2232243. 2011. Concerning rate design, cost of service, sales forecast,

and automatic rate adjustments on behalf of the Pennsylvania Office of Consumer Advocate.

116. *Aqua Illinois, Inc. Proposed General Increase in Water and Sewer Rates*, Illinois Commerce Commission, Docket No. 11-0436. 2011. Concerning rate design and cost of service on behalf of the Illinois Office of Attorney General.
117. *City of Nashua Acquisition of Pennichuck Corporation*, New Hampshire Public Utilities Commission, Docket No. DW 11-026. 2011. Concerning the proposed acquisition of an investor-owned utility holding company by a municipality, including appropriate ratemaking methodologies, on behalf of the New Hampshire Office of Consumer Advocate.
118. *An Application by Heritage Gas Limited for the Approval of a Schedule of Rates, Tolls and Charges*, Nova Scotia Utility and Review Board, Case NSUARB-NG-HG-R-11. 2011. Concerning rate design and cost of service, on behalf of the Nova Scotia Consumer Advocate.
119. *An Application of Halifax Regional Water Commission for Approval of a Cost of Service and Rate Design Methodology*, Nova Scotia Utility and Review Board, Case NSUARB-W-HRWC-R-11. 2011. Concerning rate design and cost of service, on behalf of the Nova Scotia Consumer Advocate.
120. *National Grid USA and Liberty Energy Utilities Corp.*, New Hampshire Public Utilities Commission, Docket No. DG 11-040. 2011. Concerning the costs and benefits of a proposed merger and related conditions, on behalf of the New Hampshire Office of Consumer Advocate.
121. *Great Northern Utilities, Inc., et al.*, Illinois Commerce Commission, Docket Nos. 11-0059, et al. 2012. Concerning options for mitigating rate impacts and consolidating small water and wastewater utilities for ratemaking purposes, on behalf of the Illinois Office of Attorney General.
122. *Pa. Public Utility Commission v. Aqua Pennsylvania, Inc.*, Pennsylvania Public Utility Commission, Docket No. R-2011-2267958. 2012. Concerning rate design, cost of service, and automatic rate adjustment mechanisms, on behalf of the Pennsylvania Office of Consumer Advocate.
123. *Golden State Water Company*, California Public Utilities Commission, Application 11-07-017. 2012. Concerning rate design and quality of service, on behalf of The Utility Reform Network.
124. *Golden Heart Utilities, Inc. and College Utilities Corporation*, Regulatory Commission of Alaska, Case Nos. U-11-77 and U-11-78. 2012. Concerning rate design and cost of service, on behalf of the Alaska Office of the Attorney General.
125. *Illinois-American Water Company*, Illinois Commerce Commission, Docket No. 11-0767. 2012. Concerning rate design, cost of service, and automatic rate adjustment mechanisms, on behalf of the Illinois Office of Attorney General.
126. *Application of Tidewater Utilities, Inc., for a General Rate Increase in Water Base Rates and Tariff Revisions*, Delaware Public Service Commission, Docket No. 11-397. 2012. Concerning rate design and cost of service study, on behalf of the Staff of the Delaware Public Service Commission.
127. *In the Matter of the Philadelphia Water Department's Proposed Increase in Rates for Water and Wastewater Utility Services*, Philadelphia Water Commissioner, FY 2013-2016. 2012. Concerning rate

design and related issues for storm water service, on behalf of Citizens for Pennsylvania's Future.

128. *Corix Utilities (Illinois) LLC, Hydro Star LLC, and Utilities Inc. Joint Application for Approval of a Proposed Reorganization*, Illinois Commerce Commission, Docket No. 12-0279. 2012. Concerning merger-related synergy savings and appropriate ratemaking treatment of the same, on behalf of the Illinois Office of Attorney General.
129. *North Shore Gas Company and The Peoples Gas Light and Coke Company*, Illinois Commerce Commission, Docket Nos. 12-0511 and 12-0512. 2012. Concerning rate design, cost of service study, and automatic rate adjustment tariff on behalf of the Illinois Office of Attorney General.
130. *Pa. Public Utility Commission v. City of Lancaster Sewer Fund*, Pennsylvania Public Utility Commission, Docket No. R-2012-2310366. 2012. Concerning rate design, cost of service, and cost allocation, on behalf of the Pennsylvania Office of Consumer Advocate.
131. *Aquarion Water Company of New Hampshire*, New Hampshire Public Utilities Commission, Docket No. DW 12-085. 2013. Concerning tariff issues, including an automatic adjustment clause for infrastructure improvement, on behalf of the New Hampshire Office of Consumer Advocate.
132. *In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Electric Distribution Rates*, Public Utilities Commission of Ohio, Case No. 12-1682-EL-AIR, et al. 2013. Concerning rate design and tariff issues, on behalf of the Office of the Ohio Consumers' Counsel.
133. *In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Natural Gas Distribution Rates*, Public Utilities Commission of Ohio, Case No. 12-1685-GA-AIR, et al. 2013. Concerning cost-of-service study, rate design, and tariff issues, on behalf of the Office of the Ohio Consumers' Counsel.
134. *In the Matter of the Application of The Dayton Power and Light Company to Establish a Standard Service Offer in the Form of an Electric Security Plan*, Public Utilities Commission of Ohio, Case No. 12-426-EL-SSO, et al. 2013. Concerning rate design, on behalf of the Office of the Ohio Consumers' Counsel.
135. *Application of the Halifax Regional Water Commission, for Approval of Amendments to its Schedule of Rates and Charges and Schedule of Rules and Regulations for the delivery of water, public and private fire protection, wastewater and stormwater services*, Nova Scotia Utility and Review Board, Matter No. M05463. 2013. Concerning rate design, cost-of-service study, and miscellaneous tariff provisions, on behalf of the Consumer Advocate of Nova Scotia.
136. *California Water Service Co. General Rate Case Application*, California Public Utilities Commission, Docket No. A.12-07-007. 2013. Concerning rate design, phase-in plans, low-income programs, and other tariff issues, on behalf of The Utility Reform Network.
137. *Application of The United Illuminating Company to Amend its Rate Schedules*, Connecticut Public Utility Regulatory Authority, Docket No. 13-01-19. 2013. Concerning sales forecast, rate design, and other tariff issues, on behalf of the Connecticut Office of Consumer Counsel.
138. *Application of Aquarion Water Company of Connecticut to Amend its Rate Schedules*, Connecticut Public Utility Regulatory Authority, Docket No. 13-02-20. 2013. Concerning sales forecast and rate design on

behalf of the Connecticut Office of Consumer Counsel.

139. *Ameren Illinois Company, Proposed General Increase in Natural Gas Delivery Service Rates*, Illinois Commerce Commission, Docket No. 13-0192. 2013. Concerning rate design and revenue allocation, on behalf of the Illinois Office of Attorney General and Citizens Utility Board.
140. *Commonwealth Edison Company, Tariff filing to present the Illinois Commerce Commission with an opportunity to consider revenue neutral tariff changes related to rate design*, Docket No. 13-0387. 2013. Concerning rate design and cost of service study issues, on behalf of the Illinois Office of Attorney General.
141. *In the Matter of the Potomac Electric Power Company for Authority to Increase Existing Retail Rates and Charges for Electric Distribution Service*, District of Columbia Public Service Commission, Formal Case No. 1103. 2013. Concerning rate design, revenue allocation, and cost-of-service study issues, on behalf of the District of Columbia Office of Peoples' Counsel.
142. *Pa. Public Utility Commission v. Pennsylvania-American Water Co.*, Pennsylvania Public Utility Commission, Docket No. R-2013-2355276. 2013. Concerning rate design, revenue allocation, and regulatory policy, on behalf of the Pennsylvania Office of Consumer Advocate.
143. *In the Matter of the Revenue Requirement and Transmission Tariff Designated as TA364-8 filed by Chugach Electric Association, Inc.*, Regulatory Commission of Alaska, U-13-007. 2013. Concerning rate design and cost-of-service study issues, on behalf of the Alaska Office of the Attorney General.
144. *Ameren Illinois Company: Tariff filing to present the Illinois Commerce Commission with an opportunity to consider revenue neutral tariff changes related to rate design*, Docket No. 13-0476. 2013. Concerning rate design and cost of service study issues, on behalf of the Illinois Office of Attorney General.
145. *Pa. Public Utility Commission v. City of Bethlehem Bureau of Water*, Pennsylvania Public Utility Commission, Docket No. R-2013-2390244. 2014. Concerning rate design, cost of service study, and revenue allocation on behalf of the Pennsylvania Office of Consumer Advocate.
146. *In the Matter of the Tariff Revision Designated as TA332-121 filed by the Municipality of Anchorage d/b/a Municipal Light and Power Department*, Regulatory Commission of Alaska, U-13-184. 2014. Concerning rate design and cost-of-service study issues, on behalf of the Alaska Office of the Attorney General.
147. *Pa. Public Utility Commission v. Pike County Light and Power Co. - Gas*, Pennsylvania Public Utility Commission, Docket No. R-2013-2397353. 2014. Concerning rate design and revenue allocation on behalf of the Pennsylvania Office of Consumer Advocate.
148. *Pa. Public Utility Commission v. Pike County Light and Power Co. - Electric*, Pennsylvania Public Utility Commission, Docket No. R-2013-2397237. 2014. Concerning rate design, cost of service study, and revenue allocation on behalf of the Pennsylvania Office of Consumer Advocate.
149. *The Peoples Gas Light and Coke Company North Shore Gas Company Proposed General Increase in Rates for Gas Service*, Illinois Commerce Commission, Docket Nos. 14-0224 and 14-0225. 2014. Concerning rate design on behalf of the Illinois Office of the Attorney General and the Environmental

Law and Policy Center.

150. *Apple Valley Ranchos Water Company*, California Public Utilities Commission, Docket No. A.14-01-002. 2014. Concerning rate design and automatic rate adjustment mechanisms on behalf of the Town of Apple Valley.
151. *Application by Heritage Gas Limited for Approval to Amend its Franchise Area*, Nova Scotia Utility and Review Board, Matter No. M06271. 2014. Concerning criteria, terms, and conditions for expanding a utility's service area and using transported compressed natural gas to serve small retail customers, on behalf of the Nova Scotia Consumer Advocate.
152. *Notice of Intent of Entergy Mississippi, Inc. to Modernize Rates to Support Economic Development, Power Procurement, and Continued Investment*, Mississippi Public Service Commission Docket No. 2014-UN-132. 2014. Concerning rate design and tariff issues, on behalf of the Mississippi Public Utilities Staff.
153. *Pa. Public Utility Commission v. City of Lancaster Bureau of Water*, Pennsylvania Public Utility Commission, Docket No. R-2014-2418872. 2014. Concerning rate design, cost of service study, and revenue allocation on behalf of the Pennsylvania Office of Consumer Advocate.
154. *Pa. Public Utility Commission v. Borough of Hanover Municipal Water Works*, Pennsylvania Public Utility Commission, Docket No. R-2014-2428304. 2014. Concerning rate design, cost of service study, and revenue allocation on behalf of the Pennsylvania Office of Consumer Advocate.
155. *Investigation of Commonwealth Edison Company's Cost of Service for Low-Use Customers in Each Residential Class*, Illinois Commerce Commission, Docket No. 14-0384. 2014. Concerning rate design on behalf of the Illinois Office of Attorney General.
156. *Application of the Halifax Regional Water Commission, for Approval of its Schedule of Rates and Charges and Schedule of Rules and Regulations for the Provision of Water, Public and Private Fire Protection, Wastewater and Stormwater Services*, Nova Scotia Utility and Review Board, Matter No. M06540. 2015. Concerning rate design, cost of service study, and tariff issues on behalf of the Nova Scotia Consumer Advocate.
157. *Testimony concerning organization and regulation of Philadelphia Gas Works*, Philadelphia City Council's Special Committee on Energy Opportunities. 2015.
158. *Testimony concerning proposed telecommunications legislation*, Maine Joint Standing Committee on Energy, Utilities, and Technology. 2015.
159. *Pa. Public Utility Commission v. United Water Pennsylvania, Inc.*, Pennsylvania Public Utility Commission, Docket No. R-2015-2462723. 2015. Concerning rate design, cost of service study, and revenue allocation on behalf of the Pennsylvania Office of Consumer Advocate.
160. *Ameren Illinois Company Proposed General Increase in Gas Delivery Service Rates*, Illinois Commerce Commission, Docket No. 15-0142. 2015. Concerning rate design on behalf of the Illinois Office of Attorney General.

161. *Maine Natural Gas Company Request for Multi-Year Rate Plan*, Maine Public Utilities Commission, Docket No. 2015-00005. 2015. Concerning rate design and automatic rate adjustment tariffs on behalf of the Maine Office of the Public Advocate.
162. *Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company for Authority to Provide for a Standard Service Offer*, Public Utilities Commission of Ohio, Case No. 14-1297-EL-SSO. 2015. Concerning rate design and proposed rate discounts on behalf of the Office of the Ohio Consumers' Counsel.
163. *An Application of the Halifax Regional Water Commission, for approval of revisions to its Cost of Service Manual and Rate Design for Stormwater Service*, Nova Scotia Utility and Review Board, Matter No. M07147. 2016. Concerning stormwater rate design and cost of service, on behalf of the Nova Scotia Consumer Advocate.
164. *In the Matter of An Application by Heritage Gas Limited for Enhancement to Its Existing Residential Retro-Fit Assistance Fund*, Nova Scotia Utility and Review Board, Matter No. M07146. 2016. Concerning costs and benefits associated with utility system expansion, on behalf of the Nova Scotia Consumer Advocate.
165. *In the Matter of the Application of UNS Electric, Inc. for the Establishment of Just and Reasonable Rates and Charges*, Arizona Corporation Commission, Docket No. E-04204A-15-0142. 2016. Concerning rate design and residential demand charges on behalf of Arizona Utility Ratepayer Alliance.
166. *In the Matter of Application of Water Service Corporation of Kentucky for a General Adjustment in Existing Rates*, Kentucky Public Service Commission, Case No. 2015-00382. 2016. Concerning rate design and service area consolidation on behalf of the Kentucky Office of the Attorney General.
167. *Massachusetts Electric Company and Nantucket Electric Company*, Massachusetts Department of Public Utilities, Docket No. DPU 15-155. 2016. Concerning rate design and cost-of-service studies on behalf of the Massachusetts Office of Attorney General.
168. *In the Matter of Abenaki Water Company*, New Hampshire Public Utilities Commission, Docket No. DW 15-199. 2016. Concerning rate design on behalf of the New Hampshire Office of the Consumer Advocate.
169. *In the Matter of an Application by Heritage Gas Limited for Approval of its Customer Retention Program*, Nova Scotia Utility and Review Board Matter No. M07346. 2016. Concerning a regulatory response to competition and potential business failure on behalf of the Nova Scotia Consumer Advocate.
170. *Joint Application of Pennsylvania-American Water Company and the Sewer Authority of the City of Scranton*, Pennsylvania Public Utility Commission Docket No. A-2016-2537209. 2016. Concerning the lawfulness, costs and benefits, and ratemaking treatment of a proposed acquisition of a combined wastewater and storm water utility on behalf of the Pennsylvania Office of Consumer Advocate.
171. *Application of The United Illuminating Company to Amend its Rate Schedules*, Connecticut Public Utility Regulatory Authority Docket No. 16-06-04. 2016. Concerning rate design, cost-of-service study, and other tariff issues on behalf of the Connecticut Office of Consumer Counsel.

172. *Ameren Illinois Company Tariff filing to present the Illinois Commerce Commission with an opportunity to consider revenue neutral tariff changes related to rate design*, Illinois Commerce Commission Docket No. 16-0387. 2016. Concerning rate design and cost-of-service study on behalf of the Illinois Office of the Attorney General.
173. *Unitil Energy Systems, Inc.*, New Hampshire Public Utilities Commission Docket No. 16-384. 2016. Concerning rate design and cost-of-service study on behalf of the New Hampshire Office of Consumer Advocate.
174. *Liberty Utilities (Granite State Electric) Corp.*, New Hampshire Public Utilities Commission Docket No. 16-383. 2016. Concerning rate design and cost-of-service study on behalf of the New Hampshire Office of Consumer Advocate.
175. *Arizona Public Service Co.*, Arizona Corporation Commission Docket No. E-01345A-16-0123. 2017. Concerning rate design and cost-of-service study on behalf of the Arizona Utility Ratepayer Alliance.
176. *Commonwealth Edison Company, Tariff filing to present the Illinois Commerce Commission with an opportunity to consider revenue neutral tariff changes related to rate design*, Illinois Commerce Commission Docket No. 17-0049. 2017. Concerning rate design and cost of service study issues, on behalf of the Illinois Office of Attorney General.
177. *NSTAR Electric Company and Western Massachusetts Electric Company*, Massachusetts Department of Public Utilities Docket No. D.P.U. 17-05. 2017. Concerning rate design and cost of service study issues, on behalf of the Massachusetts Office of Attorney General.
178. *In the Matter of the Tariff Revision Designated as TA857-2 Filed by Alaska Power Company*, Regulatory Commission of Alaska No. U-16-078. 2017. Concerning rate design and cost of service study issues on behalf of the Alaska Office of the Attorney General.
179. *In the Matter of the Application of Minnesota Power for Authority to Increase Rates for Electric Utility Service in Minnesota*, Minnesota Public Utilities Commission Docket No. E015/GR-16-664. 2017. Concerning rate design and cost of service study issues on behalf of AARP.
180. *Pennsylvania Public Utility Commission v. Pennsylvania-American Water Company*, Pennsylvania Public Utility Commission, Docket No. R-2017-2595853. 2017. Concerning rate design, cost of service, and policy issues, on behalf of the Pennsylvania Office of Consumer Advocate.
181. *Aqua Illinois, Inc. Proposed Rate Increases for Water and Sewer Services*, Illinois Commerce Commission, Docket No. 17-0259. 2017. Concerning rate design and single-tariff pricing, on behalf of the Illinois Office of Attorney General.
182. *Petition of Pennsylvania-American Water Company for Approval of Tariff Changes and Accounting and Rate Treatment Related to Replacement of Lead Customer-Owned Service Pipes*, Pennsylvania Public Utility Commission, Docket No. P-2017-2606100. 2017. Concerning public policy and ratemaking issues associated with the replacement of customer-owned lead service lines, on behalf of the Pennsylvania Office of Consumer Advocate.
183. *In the Matter of Application and Notice of Change in Natural Gas Rates of Montana-Dakota Utilities Co.*, North Dakota Public Service Commission, Case No. PU-17-295. 2017. Concerning rate design and cost

of service study issues, on behalf of AARP.

184. *Aqua Illinois, Inc. Petition for the Issuance of a Certificate of Public Convenience and Necessity to Operate a Water and Wastewater System in the Village of Peotone*, Illinois Commerce Commission, Docket No. 17-0314. 2018. Concerning rate consolidation and rate design, on behalf of the Illinois Office of Attorney General.
185. *Application of the Connecticut Light and Power Company d/b/a Eversource Energy to Amend its Rate Schedules*, Connecticut Public Utilities Regulatory Authority, Docket No. 17-10-46. 2018. Concerning rate design issues, on behalf of the Connecticut Office of Consumer Counsel.
186. *Application by Heritage Gas for Approval of a Long-Term Natural Gas Transportation Contract and Cost Recovery Mechanism*, Nova Scotia Utility and Review Board, Matter M08473. 2018. Concerning evaluation of costs, benefits, and risks of a long-term natural gas pipeline contract, on behalf of the Consumer Advocate of Nova Scotia.
187. *Boston Gas Company and Colonial Gas Company*, Massachusetts Department of Public Utilities, D.P.U. 17-170. 2018. Concerning class revenue allocation and rate design, on behalf of the Massachusetts Office of Attorney General.
188. *In the Matter of the Application of Maryland-American Water Company for Authority to Adjust its Existing Schedule of Tariffs and Rates*, Maryland Public Service Commission, Case No. 9487. 2018. Concerning cost-of-service study, on behalf of the Staff of the Maryland Public Service Commission.
189. *Joint Application and Petition of South Carolina Electric & Gas Company and Dominion Energy, Inc. for review and approval of a proposed business combination between SCANA Corporation and Dominion Energy, Inc., as may be required, and for a prudence determination regarding the abandonment of the V.C. Summer Units 2 & 3 Project and associated merger benefits and cost recovery plans*, South Carolina Public Service Commission, Docket No. 2017-370-E. 2018. Concerning regulatory policy, prudence of decision-making, and cost sharing, on behalf of AARP.
190. *Application of Transource Pennsylvania, LLC for approval of the Siting and Construction of the 230 kV Transmission Line Associated with the Independence Energy Connection - East and West Projects in portions of York and Franklin Counties, Pennsylvania*, Pennsylvania Public Utility Commission, Docket Nos. A-2017-2640195, et al. 2018. Concerning regulatory policy and benefit-cost analysis for a proposed high-voltage electric transmission line, on behalf of the Pennsylvania Office of Consumer Advocate.
191. *Pa. Public Utility Commission v. Pittsburgh Water and Sewer Authority*, Pennsylvania Public Utility Commission, Docket Nos. R-2018-3002645, et al. 2018. Concerning cost-of-service study and rate design for a water and wastewater utility, on behalf of the Pennsylvania Office of Consumer Advocate.
192. *West Virginia-American Water Company Rule 42T Tariff Filing to Increase Rates and Charges*, West Virginia Public Service Commission, Case No. 18-0573-W-42T, et al. 2018. Concerning revenue decoupling, on behalf of the Consumer Advocate Division.
193. *Philadelphia Gas Works and Philadelphia Facilities Management Corporation Petition for Approval and Recommendation for Approval of Certain Transactions and Contracts for the Purchase, Storage, Distribution and/or Transmission of Natural and Other Gas, and also Certain Transactions and Contracts Respecting Real Property Owned by the City of Philadelphia and Operated by the Philadelphia*

Gas Works, Philadelphia Gas Commission. 2018. Concerning regulatory policy and cost-benefit analysis for a proposed public-private partnership, on behalf of the Philadelphia Public Advocate.

194. *Pa. Public Utility Commission v. Aqua Pennsylvania, Inc., and Aqua Pennsylvania Wastewater, Inc.*, Pennsylvania Public Utility Commission, Docket Nos. R-2018-3003558, et al. 2018. Concerning rate design, class revenue allocation, and automatic rate adjustment mechanism, on behalf of the Pennsylvania Office of Consumer Advocate.
195. *In the Matter of Commission Initiated Investigation into Rates and Revenue Requirements and Customer Service and Communication Issues Pertaining to Central Maine Power Company*, Maine Public Utilities Commission, Docket No. 2018-00194. 2019. Concerning cost-of-service studies and rate design, on behalf of the Maine Office of Public Advocate.
196. *Northern Illinois Gas Company d/b/a Nicor Gas Company: Proposed general increase in gas rates*, Illinois Commerce Commission, Docket No. 18-1775. 2019. Concerning rate design, cost-of-service study, class revenue allocation, and automatic rate adjustment mechanisms, on behalf of the Illinois Office of the Attorney General.
197. *Massachusetts Electric Co. and Nantucket Electric Co., d/b/a/ National Grid*, Massachusetts Department of Public Utilities, D.P.U. 18-150. 2019. Concerning rate design, cost-of-service study, class revenue allocation, and time-of-use rates, on behalf of the Massachusetts Office of Attorney General.
198. *Implementation of Chapter 32 of the Public Utility Code Regarding Pittsburgh Water and Sewer Authority – Stage 1*, Pennsylvania Public Utility Commission, Docket Nos. M-2018-2640802 and M-2018-2640803. 2019. Concerning billing, metering, rate design, and other compliance issues for a municipal water authority, on behalf of the Pennsylvania Office of Consumer Advocate.
199. *Commonwealth Edison Company Petition for approval of a Revision to Integrated Distribution Company Implementation Plan. Creation of Rate Residential Time of Use Pricing Pilot (“Rate RTOUPP”)*. Illinois Commerce Commission, Docket Nos. 18-1725/18-1824 (Cons.). Concerning time-of-use rates, on behalf of the Illinois Office of Attorney General.
200. *Washington Utilities and Transportation Commission v. Northwest Natural Gas Co.*, Washington Utilities and Transportation Commission, Docket UG-181053. 2019. Concerning a proposed revenue decoupling automatic rate adjustment mechanism, on behalf of the Washington Office of Attorney General, Public Counsel Unit.
201. *In the Matter of the Application of Washington Gas Light Company for Authority to Increase Existing Rates and Charges and to Revise its Terms and Conditions for Gas Service*, Maryland Public Service Commission, Case No. 9605. 2019. Concerning cost-of-service study on behalf of the Staff of the Maryland Public Service Commission.
202. *Public Service Company of New Hampshire, d/b/a Eversource Energy*, New Hampshire Public Utilities Commission, Docket No. DE 19-057. 2019. Concerning class revenue allocation, rate design, revenue decoupling, other automatic rate adjustment mechanisms, and miscellaneous tariff issues on behalf of AARP.
203. *In the Matter of the Application of Southwest Gas Corporation for the Establishment of Just and Reasonable Rates and Charges Designed to Realize a Reasonable Rate of Return on the Fair Value of the*

Properties of Southwest Gas Corporation Devoted to its Arizona Operations, Arizona Corporation Commission, Docket No. G-01551A-19-0055. 2020. Concerning certain relationships with affiliates, premature pipe replacement, revenue decoupling, automatic rate adjustment mechanisms, and rate design on behalf of Arizona Grain, Inc.

204. *Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of an Increase in Base Distribution Rates*, Massachusetts Department of Public Utilities, Docket No. D.P.U. 19-120. 2020. Concerning cost-of-service study, class revenue allocation, surcharges, and miscellaneous tariff provisions, on behalf of the Massachusetts Office of Attorney General.

205. *In the Matter of an Application of the Halifax Regional Water Commission for Approval of a Schedule of Rates and Charges*, Nova Scotia Utility and Review Board, Matter M09589. 2020. Concerning regulatory policy, cost-of-service study, and rate design, on behalf of the Nova Scotia Consumer Advocate.

206. *Pa. Public Utility Commission v. UGI Utilities Inc. - Gas Division*, Pennsylvania Public Utility Commission, Docket No. R-2019-3015162. 2020. Concerning regulatory policy, on behalf of the Pennsylvania Office of Consumer Advocate.

207. *Pa. Public Utility Commission v. Philadelphia Gas Works*, Pennsylvania Public Utility Commission, Docket No. R-2020-3017206. 2020. Concerning regulatory policy, on behalf of the Pennsylvania Office of Consumer Advocate.

208. *Pa. Public Utility Commission v. Pittsburgh Water and Sewer Authority*, Pennsylvania Public Utility Commission, Docket Nos. R-2020-3017951, *et al.* 2020. Concerning regulatory policy, cost-of-service study, and rate design, on behalf of the Pennsylvania Office of Consumer Advocate.

209. *Pa. Public Utility Commission v. Columbia Gas of Pa.*, Pennsylvania Public Utility Commission, Docket No. R-2020-3018835. 2020. Concerning regulatory policy, on behalf of the Pennsylvania Office of Consumer Advocate.

210. *Pa. Public Utility Commission v. Pennsylvania-American Water Co.*, Pennsylvania Public Utility Commission, Docket No. R-2020-3019369. 2020. Concerning regulatory policy, cost-of-service studies, rate design, and tariff issues, on behalf of the Pennsylvania Office of Consumer Advocate.

211. *In the Matter of the Application of Arizona Public Service Company*, Arizona Corporation Commission, Docket No. E-01345A-19-0236. 2020. Concerning residential rate design, on behalf of AARP.

212. *Pa. Public Utility Commission v. City of Bethlehem - Water Department*, Pennsylvania Public Utility Commission, Docket No. R-2020-3020256. 2020. Concerning regulatory policy, on behalf of the Pennsylvania Office of Consumer Advocate.

Comparison of Present and DESC Proposed Base Rates for Residential Service

Rate 1 (Old Energy Efficiency; frozen to new customers)

	Units	Present		DESC Proposed			
		Rate	Revenue	Rate	Revenue	\$ Change	% Change
BFC	256,789	9.00000	2,311,101	11.50000	2,953,074	641,973	27.8%
1st 800 kWh	182,938,846	0.08639	15,804,087	0.08966	16,402,297	598,210	3.8%
Over 800 kWh							
Summer	66,904,137	0.09785	6,546,570	0.10120	6,770,699	224,129	3.4%
Non-Summer	74,723,688	0.08183	6,114,639	0.08508	6,357,491	242,852	4.0%
Total			30,776,397		32,483,560	1,707,163	5.5%

Rate 2 (Low-Use < 400 kWh/month)

	Units	Present		DESC Proposed			
		Rate	Revenue	Rate	Revenue	\$ Change	% Change
BFC	197,157	9.00000	1,774,413	10.25000	2,020,859	246,446	13.9%
All kWh	26,795,329	0.06392	1,712,757	0.06174	1,654,344	(58,414)	-3.4%
Total			3,487,170		3,675,203	188,032	5.4%

Rate 5 (TOU; summer peak 2 pm to 7 pm; non-summer peak 7 am to noon)

	Units	Present		DESC Proposed			
		Rate	Revenue	Rate	Revenue	\$ Change	% Change
BFC	811	13.00000	10,543	15.50000	12,571	2,028	19.2%
Off-peak kWh	866,280	0.06276	54,368	0.06622	57,365	2,997	5.5%
On-peak kWh							
Summer	70,470	0.24474	17,247	0.24988	17,609	362	2.1%
Non-Summer	81,390	0.21744	17,697	0.22233	18,095	398	2.2%
Total			99,855		105,640	5,785	5.8%

Exhibit ____ (SJR-1)

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Rate 6 (new energy efficiency rate)

	Units	Present		DESC Proposed			
		Rate	Revenue	Rate	Revenue	\$ Change	% Change
BFC	380,801	9.00000	3,427,209	11.50000	4,379,212	952,003	27.8%
1st 800 kWh	266,862,115	0.08639	23,054,218	0.08966	23,926,857	872,639	3.8%
Over 800 kWh							
Summer	96,683,846	0.09785	9,460,514	0.10120	9,784,405	323,891	3.4%
Non-Summer	105,086,497	0.08183	8,599,228	0.08508	8,940,759	341,531	4.0%
Total			44,541,169		47,031,233	2,490,064	5.6%

Rate 7 (TOU with demand charge)

	Units	Present		DESC Proposed			
		Rate	Revenue	Rate	Revenue	\$ Change	% Change
BFC	150	13.00000	1,950	15.50000	2,325	375	19.2%
On-peak kW							
Summer	749	10.50000	7,865	11.20000	8,389	524	6.7%
Non-Summer	1,156	7.50000	8,670	8.00000	9,248	578	6.7%
On-peak kWh	107,776	0.05461	5,886	0.05707	6,151	265	4.5%
Off-peak kWh	657,896	0.04508	29,658	0.04756	31,290	1,632	5.5%
Total			54,028		57,402	3,374	6.2%

Rate 8 (standard rate)

	Units	Present		DESC Proposed			
		Rate	Revenue	Rate	Revenue	\$ Change	% Change
BFC	6,800,924	9.00000	61,208,316	11.50000	78,210,626	17,002,310	27.8%
1st 800 kWh	4,515,960,984	0.09040	408,242,873	0.09372	423,235,863	14,992,990	3.7%
Over 800 kWh							
Summer	1,422,525,625	0.10226	145,467,470	0.10566	150,304,058	4,836,587	3.3%
Non-Summer	1,493,976,665	0.08568	128,003,921	0.08898	132,934,044	4,930,123	3.9%
Total			742,922,580		784,684,591	41,762,011	5.6%

Exhibit ____ (SJR-1)

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Total Residential Base Rates

	Present	DESC Proposed		
	Revenues	Revenues	\$ Change	% Change
BFC	68,733,532	87,578,666	18,845,134	27.4%
kW charges	16,535	17,637	1,102	6.7%
kWh charges	<u>737,327,047</u>	<u>764,039,030</u>	<u>26,711,983</u>	<u>3.6%</u>
Total	806,077,113	851,635,332	45,558,219	5.7%

Source: ORS 2-20, tab RES (not confidential), and present & proposed tariffs (Application Exhs. A & B)

Residential customer cost calculation under DESC proposed rates

(All entries are x \$1,000, except percentages and per-customer calculation)

Line

	Net rate base (x \$1,000)		
1	Services	230,302	Exh. ____ (KRK-1), p. 3, line 33
2	Meters	<u>90,417</u>	Exh. ____ (KRK-1), p. 3, line 34
3	Total rate base	320,719	line 1 + line 2
4	Rate of return	8.19%	Exh. ____ (KRK-2), p. 1 (Residential Rate of Return after Increase)
5	Return	26,267	line 3 x line 4
6	Gross revenue conversion	1.33914	1 ÷ Exh. C-3, line 8
7	Plant-related rev. rqmt.	35,175	line 5 x line 6
	O & M expenses		
8	Meter oper.	926	Exh. ____ (KRK-1), p. 10, line 9
9	Meter maint.	236	Exh. ____ (KRK-1), p. 10, line 22
10	Cust. accts	<u>33,788</u>	Exh. ____ (KRK-1), p. 11, line 7
11	Total O&M expenses	34,950	Sum of lines 8-10
12	Total depreciation expense	7,951	line 3 ÷ Exh. ____ (KRK-1), p. 3, line 36 x Exh. ____ (KRK-1), p. 13, line 4
13	Less forfeited discounts	(5,529)	Exh. ____ (KRK-1), p. 6, line 9
14	Total basic customer cost	72,547	line 7 + line 11 + line 12 + line 13
15	No. of customers	636,386	Calculated from proof of revenues (ORS 2-20)
16	Cost per bill	<u>\$ 9.50</u>	line 16 x \$1,000 ÷ (line 17 x 12)

Comparison of Present and AARP Proposed Base Rates for Residential Service

Rate 1 (Old Energy Efficiency; frozen to new customers)

	Units	Present		AARP Proposed			
		Rate	Revenue	Rate	Revenue	\$ Change	% Change
BFC	256,789	9.00000	2,311,101	9.00000	2,311,101	-	0.0%
1st 800 kWh	182,938,846	0.08639	15,804,087	0.09216	16,859,644	1,055,557	6.7%
Over 800 kWh							
Summer	66,904,137	0.09785	6,546,570	0.10425	6,974,756	428,186	6.5%
Non-Summer	74,723,688	0.08183	6,114,639	0.08735	6,527,114	412,475	6.7%
Total			30,776,397		32,672,615	1,896,218	6.2%

Rate 2 (Low-Use < 400 kWh/month)

	Units	Present		AARP Proposed			
		Rate	Revenue	Rate	Revenue	\$ Change	% Change
BFC	197,157	9.00000	1,774,413	6.50000	1,281,521	(492,893)	-27.8%
All kWh	26,795,329	0.06392	1,712,757	0.06768	1,813,508	100,750	5.9%
Total			3,487,170		3,095,028	(392,142)	-11.2%

Rate 5 (eliminated - customers moved to Rate 8)

	Units	Present		AARP Proposed			
		Rate	Revenue	Rate	Revenue	\$ Change	% Change
BFC	811			9.00000	7,299		
1st 800 kWh	579,503			0.09600	55,632		
Over 800 kWh							
Summer	222,880			0.10859	24,203		
Non-Summer	215,757			0.09099	19,632		
Total			99,855		106,766	6,911	6.9%

Exhibit ____ (SJR-3)

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Rate 6 (new energy efficiency rate)

	Units	Present		AARP Proposed			
		Rate	Revenue	Rate	Revenue	\$ Change	% Change
BFC	380,801	9.00000	3,427,209	9.00000	3,427,209	-	0.0%
1st 800 kWh	266,862,115	0.08639	23,054,218	0.09216	24,594,013	1,539,794	6.7%
Over 800 kWh							
Summer	96,683,846	0.09785	9,460,514	0.10425	10,079,291	618,777	6.5%
Non-Summer	105,086,497	0.08183	8,599,228	0.08735	9,179,306	580,077	6.7%
Total			44,541,169		47,279,818	2,738,648	6.1%

Rate 7 (eliminated - customers moved to Rate 8)

	Units	Present		AARP Proposed			
		Rate	Revenue	Rate	Revenue	\$ Change	% Change
BFC	150			9.00000	1,350		
1st 800 kWh	117,321			0.09600			
Over 800 kWh					-		
Summer	269,208			0.10859	29,233		
Non-Summer	379,143			0.09099	34,498		
Total			54,028		65,082	11,053	20.5%

Rate 8 (standard rate)

	Units	Present		AARP Proposed			
		Rate	Revenue	Rate	Revenue	\$ Change	% Change
BFC	6,800,924	9.00000	61,208,316	9.00000	61,208,316	-	0.0%
1st 800 kWh	4,515,960,984	0.09040	408,242,873	0.09600	433,533,491	25,290,618	6.2%
Over 800 kWh							
Summer	1,422,525,625	0.10226	145,467,470	0.10859	154,472,058	9,004,587	6.2%
Non-Summer	1,493,976,665	0.08568	128,003,921	0.09099	135,936,937	7,933,016	6.2%
Total			742,922,580		785,150,801	42,228,221	5.7%

Exhibit ____ (SJR-3)

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Total Residential Base Rates

	Present	AARP Proposed		
	Revenues	Revenues	\$ Change	% Change
BFC	68,721,039	68,236,796	(484,244)	-0.7%
kWh charges	<u>737,202,191</u>	<u>783,244,438</u>	<u>46,042,246</u>	<u>6.2%</u>
Total	805,923,230	851,481,233	45,558,003	5.7%
Target			45,558,219	

Sources:

ORS 2-20, tab RES (not confidential), and present & proposed tariffs (Application Exhs. A & B)

Billing units to transfer Rate 5 and Rate 7 customers to Rate 8 calculated from ORS 2-81